



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/973,285	10/09/2001	Chia Mu Shao	131523-0002	6372

7590 11/09/2005

MICHAEL S. GZYBOWSKI
BUTZEL LONG
350 SOUTH MAIN STREET
SUITE 300
ANN ARBOR, MI 48104

EXAMINER

CHEUNG, DAVID

ART UNIT PAPER NUMBER

3713

DATE MAILED: 11/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/973,285	Applicant(s) SHAO, CHIA MU	
	Examiner David Cheung	Art Unit 3713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 12 and 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 14 and 15 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 May 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: On page 7 line 13, "coil 102" should be changed to 120. Appropriate correction is required.

Claim Objections

Claim 8 is objected to because of the following informalities: dart is misspelled as "dark". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-7, 14,15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Coreless inductance coil is mentioned in claims 1-7, 14 and 15. However, both the

Art Unit: 3713

specification and drawings fails to address or point out the coreless feature of said inductance coils. Without the clear disclosure of the exact type of inductance coils needed, one skilled in the art will not be able to reckon on the appropriate type of said coils for the invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 8-11, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuscone (GB 2,086,243) in view of Ban (US 4,107,587).

For claim 1, Fuscone discloses an electric dart game comprising a dart (Fig. 1), a dartboard provided with a frame of a plurality of scoring areas by a plurality of radial spiders and circumferential spider which are arranged crossly (Figs. 2, 7, and 9), with a main body for receiving said dart and attached to said frame, and an electronic scoring means for displaying signals collected from the scoring areas (Fig. 5). Said scoring system uses a plurality of inductance coils (Fig. 2 reference 4 & Page 1 lines 125-129) connected to the electronic scoring system (Fig. 5). Fuscone also discloses said dart is made of thus provided with magnetic substance (Page 1, lines 75-78, 103). Each of said coils is associated with a corresponding scoring area and thus defines a scoring signal zone (Fig.

Art Unit: 3713

2). When said dart is thrown at said dartboard, a scoring signal is generated by said dart entering said signal zone and is transmitted to said scoring system

(Page 2, lines 20-24, 66-82).

For claim 2, said inductance coils are provided with predetermined shape and are engaged with said scoring areas (Fig. 2).

For claim 3, the cross-section of said coils matches, and is smaller than said scoring areas (Fig. 2).

For claim 5, said frame with said coils is disposed in the back of the main body (Abstract, lines 4-7).

For claim 8, the point of said dart is of a magnetic substance (Page 1, line 104)

For claim 9, the slender shaft of said dart is of a magnetic substance (Page 1, lines 104-106)

For claim 10, said point and said slender shaft of said dart are integrated and magnetized simultaneously (Page 1, lines 104-121).

For claim 11, the main body of said dartboard is made of material used on a traditional dartboard (Page 1, lines 41-45). The magnetization of said dart is used for changing the distribution of the magnetic field of said inductance coil (Page 2, lines 20-21).

Though Fuscone fails to disclose said inductance coils to be coreless, Ban discloses another electromagnetic induced application, a three-phase DC motor, which employs coreless inductance coils for small inductance gain purpose (Column 13, line 54). It would have been obvious to one of ordinary skill in the

Art Unit: 3713

art at the time of invention to choose coreless inductance coils over inductance coils with cores for any application that only requires a small amount of inductance as in said dartboard to reduce the additional weight of the cores and thus lowering the manufacturing cost.

For claims 4 and 6, Fuscone discloses that said frame provided with said coils is arranged behind that of the main body. Fuscone does not disclose arranging said frame in front of or within the main body. However, without a showing of criticality, it would have been obvious to one of ordinary skill in the art at the time of invention to dispose said frame in different locations, whether in front of the body for ease of mounting, or to manufacture said board with the frame integrated to provide a more sturdy device.

For claim 14, Fuscone discloses inductance coils with cores for sensing the changes in the magnetic field (Page 2, lines 20-21) upon the entering of said dart on to said dartboard, but is silent about said dart moving through one of said coils. It is well known in the art that a plurality of different ways and designs in which inductance can be formed and measured and a plurality of coil types and materials can be used. With the teachings of Ban, it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate coreless inductance coils in the design of the coils to allow said darts to move through and penetrate said coils.

For claim 15, the generation of an electric field when said dart moves through said inductance coils, coreless or with cores, is an inherent property of inductance.

Art Unit: 3713

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fuscone in view of Ban and further in view of Clark (US 4,768,789).

Fuscone is silent on wiring the plurality of said coils correspond to different scoring areas representing the same score together before being connected to said scoring means. However, it is a well-known concept in the art that the motherboard required to run the electronic scoring only has a limited number of inputs. Clark discloses a dartboard system that supports this concept. In describing the motherboard used to control the electronic scoring, Clark states that connections must be connected to the same lines in order for the total number of scoring positions on the dartboard to be accounted for (Column 5, lines 26-29). It would have been obvious to one of ordinary skill in the art at the time of invention to limit the number of inputs required, inputs having the same signal should be tied together into the same input line in order to conserve the number of inputs needed into the motherboard. Therefore limiting the cost of electronic components required as well as creating a simpler wiring into the motherboard.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Cheung whose telephone number is 571-272-2772. The examiner can normally be reached on Tuesday - Friday, 8am-6:30pm.

Art Unit: 3713

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan Thai can be reached on 571-272-7147. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DC


XUAN M. THAI
SUPERVISORY PATENT EXAMINER
TC3700